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NASA Procedural Requirements

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**Subject: NASA Product Data and Life-Cycle Management (PDLM)
for Flight Programs and Projects**

Responsible Office: Office of the Chief Engineer

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Chapter 1. Introduction

1.1 Overview

1.1.1 PDLM consists of disciplined collaborative processes and systems that plan for, acquire, and control PDD and associated product-related data, (including but not limited to engineering, design, test, procurement, manufacturing, operational, and logistics information) throughout the product and data life cycles.

1.1.2 PDLM is the set of processes and associated information used to manage the entire life cycle of product data from its conception, through design, test, and manufacturing, to service and disposal. To do so requires managing the creation and changes to product definition, product configurations, affiliated engineering data (e.g., design definition and rationale, studies and analyses, models and simulations, testing and verification planning and results), data on the performance of the product components in mission environments, and product software and hardware.

1.1.3 Product Data Management (PDM) provides key capabilities that underlay Product Life-cycle Management (PLM) and is widely considered a precursor requirement to effective PDLM.

1.1.4 PDLM integrates data, processes, tools, and business systems to provide users with a product information backbone for NASA programs and projects. A life-cycle-oriented approach to PDLM is intended to reduce or eliminate redundant development activities, increase collaborative design and analysis, and reduce time to complete informed decision making throughout the program and project life cycle.

1.1.5 Information Technology (IT) Systems across NASA will be made interoperable or integrated to the extent needed to provide a secure, readily accessible environment to enable required collaborative PDLM capabilities.

1.1.6 This direction is intended to increase the probability of mission success by increasing the effectiveness and efficiency of data interchange and integration across disparate systems and increasing availability of the right data for the right people at the right time, thereby reducing risk.

1.2 Document Structure

1.2.1 The remainder of this document is organized as follows:

- a. Chapter 2 defines roles and responsibilities for implementing PDLM.
- b. Chapter 3 provides requirements (verifiable "shall" statements) for PDLM architectures and the PDLM plan.
- c. Appendix A provides definitions for terms used in this document.
- d. Appendix B provides a list of acronyms used in this document.
- e. Appendix C provides a list of applicable references.
- f. Appendix D describes the content of the PDLM plan.

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